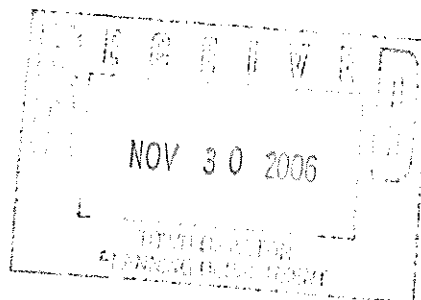


## ENSR

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November 28, 2006

Roland Bartl, AICP, Town Planner  
Acton Planning Department  
472 Main Street  
Acton, MA 01720



**Re: IPM/TM Environmental Review of the Quail Ridge Country Club  
Acton, Massachusetts  
Fall 2006 Review**

Dear Mr. Bartl:

This is the third peer review report on the turfgrass management practices at the new Quail Ridge Country Club golf course (QRCC). On October 26<sup>th</sup> Dr. William Torello, Mr. Peter Ohlson, Mr. Thomas Tidman, and I reviewed practices at the maintenance area and on the course with Mr. Louis Bettencourt (QRCC Superintendent). The course is still in the grow-in phase, but all of the holes are open for play.

There are a series of field tasks and report reviews which are called for in the peer review protocol established between the Town, QRCC, and ENSR. Some of these items were addressed in June and October, and some remain to be addressed. The remainder of this letter is modeled after the protocol established between all parties. The original protocol verbiage is reproduced in italics, and the current status of each item follows in plain text.

#### **Quail Ridge Environmental Audit Task**

*Since the outset of this project the Acton Planning Board had looked towards the Audubon International (AI) Signature Program as the peer reviewer of the ongoing Integrated Pest Management/Turf Management program at the course. It was also assumed that AI would provide environmental audit services of the operations at the course. Conditions 2.8 and 3.2.4 of the Planning Board Special Permit and Special Condition 53 of the Order of Conditions issued by the Acton Conservation Commission establishes the need for enrollment in the AI Signature Program "Bronze" level.*

*To accomplish this (the functional equivalent of the AI review), ENSR proposes to conduct on-site reviews twice a year (May and October). The reviews would be accomplished by a team which includes the Quail Ridge Golf Course Superintendent, a golf course superintendent from another local facility using IPM/TM practices and/or an IPM expert, and an environmental audit professional from ENSR. The on-site reviews would be conducted with advance notice to the Quail Ridge Superintendent.*

On October 26, 2006 Mr. Michael Toohill (ENSR), Dr. William Torello (retired Director of the UMass Turfgrass Institute and currently an IPM/TM consultant), Mr. Peter Ohlson (Golf Course Superintendent, Wentworth Hills Golf and Country Club), and Mr. Thomas Tidman (Acton Conservation Commission Administrator) performed a field and office review of the IPM/TM practices with Mr. Louis Bettencourt (QRCC Superintendent). This was the second 2006 review.

*The review will incorporate the following tasks:*

1. *Look at the ongoing operational IPM/TM practices.*
  - a. *Scouting reports*
  - b. *Local environmental conditions*
  - c. *Pathogen diagnosis*
  - d. *Soil analysis*
  - e. *Tissue analysis*

Environmental conditions are being documented (scouting reports) and reported along with periodic soil testing. Tissue testing was not required this past summer. The superintendent has incorporated a progressive IPM program including the installation and use of an expensive "Bioject" system and organic fertilizer/amendment program designed to reduce and limit the use of pesticides. The Bioject system applies an active nitrogen-fixing microbial mix through the irrigation system; this system is used daily at QRCC and helps to control fungus, especially slowing down the spread of dollar spot.

Several of the potential issues noted in the first and second reports have been addressed and, as the course continues to mature, are becoming less of an issue.

2. *Conduct visual inspections of the equipment maintenance area.*
  - a. *Oil/solvent disposal*
  - b. *Parts wash station*
  - c. *Fuel tanks*
  - d. *Overall appearance of equipment maintenance area*

All of the significant improvements/additions made to the maintenance area between our first and second visits remain operational. The maintenance area has a state-of-the-art parts wash station, hazardous materials handling areas, oil/solvent disposal system, and wash-down station which are fully contained and recyclable. Installation of the fuel tanks, and the acquisition of a pesticide storage unit, is in the procurement stage.

3. *Inspect equipment wash down areas.*
  - a. *Runoff of clippings and wash water contained/recycled*
  - b. *Assure that wash down system is functional*

The facility includes a self contained equipment wash down station. The equipment was being used during our site visit and we were able to see the wash down, recycling/water conservation, and clippings removal aspects in full operation.

4. *Review pesticide/fertilizer storage, mixing, and recordkeeping procedures.*

The pesticide storage locker had not been delivered (but had apparently been ordered) at the time of our visit. At present, most chemicals used on site are purchased when needed so that storage is not an issue. For temporary fertilizer storage, the Superintendent has installed a temporary fenced enclosure within his maintenance facility to keep the chemicals separate from the rest of the operations.

We reviewed the Superintendent's recordkeeping of chemicals used on the course. These records include applications dates, rates, and locations of use and are kept according to DFA regulations and standard industry practice.

5. *Review irrigation system leak detection and maintenance plan.*

The irrigation system is fully operational, but the irrigation pond continues to have problems with excess leakage. The pond was built in fractured bedrock and fractures occasionally open up and cause significant storage losses. This, in turn, puts a higher demand on the groundwater wells. There are no reports from abutters or from the Acton Water Department that this increased withdrawal has caused a problem with area wells. We understand that the DEP is investigating the usage in light of the restrictions placed on the course under the Administrative Consent Order.

The course is under full irrigation and the Superintendent is still "tweaking" the system. This was apparent in two areas where sprinkler heads were still in need of adjustment to avoid overspray into adjacent woodlands. There were no reported irrigation line breaks or failures.

It is apparent that a significant amount of time and energy is being devoted to water conservation practices as well as potential run-off/erosion problems.

6. *Review water conservation practices.*

- a. *Pump house flow meters*
- b. *Monthly withdrawal records*
- c. *Irrigation system computer*

Metering equipment at the pump house was operational at the time of our visit, as were meters on the individual supply wells. The Superintendent is keeping withdrawal records for compliance with the Water Management Act. These records should be forwarded to ENSR and the Town for review.

7. *Conduct on-course inspections of areas in close proximity to environmentally sensitive receptors.*
  - a. *Turfgrass/native grass buffer zones are working properly*
  - b. *Runoff should be detained before wetland areas*

ENSR has served as the on-site erosion controls monitor during the construction and grow-in of the course. Separate reports detailing these efforts are routinely filed with the Acton Conservation Commission, and summary reports are copied to the Acton Planning Board. Rilling and erosion had largely been addressed, and we have ceased monitoring erosion controls in accordance with the provisions of the agreement between the Town and QRCC.

*ENSR will prepare a summary report of each site visit for submission to the Planning Board, the Conservation Commission, the Board of Health, and the Quail Ridge Country Club Superintendent. This report will identify any deficiencies noted during the site visit and the steps recommended to correct each deficiency.*

This letter serves as the required summary report.

*In addition to the on-site reviews, ENSR will review the water quality and quantity information being submitted to the Town for compliance with the Special Permit and Order of Conditions (Special Conditions 78 and 96).*

Water qualities monitoring results and water withdrawal records have not yet been submitted for review. We understand that these records will be coming from two different sources and are making attempts to procure the records for peer review purposes. We have been unsuccessful in our attempts to acquire the water quality sampling results from the QRCC's consultant. We have asked Mr. Tidman and Mr. Bartl to intervene in an attempt to acquire these records.

*The ENSR team will also review the annual IPM/TM reports which the Quail Ridge Superintendent will be submitting annually to the Town (Special Condition 88). ENSR will prepare a letter report of its review findings for submission to the Planning Board, the Conservation Commission, the Board of Health, and the Quail Ridge Country Club Superintendent. This report will identify any recommended changes to the upcoming year's IPM/TM plan.*

The annual IPM/TM report has not yet been submitted for review. This should be submitted annually in January to the Planning Board and Board of Health by the QRCC Superintendent.

Thank you for asking ENSR to serve as the peer reviewer for this project. If you have any questions about this report or our erosion control reports please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Michael J. Toohill', with a stylized flourish at the end.

Michael J. Toohill  
Sr. Environmental Scientist

Cc: Thomas Tidman, Conservation Commission Administrator  
Brent Reagor, Board of Health Environmental Health Specialist  
Louis Bettencourt, QRCC Golf Course Superintendent  
Ron Peabody, Northwest Development, QRCC Principal  
William Torello, IPM Consultant to the ENSR Team  
Peter Ohlson, Consulting Superintendent to the ENSR Team